John M. Arenz

March 14, 2009

Sue McConnell
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

Dear Ms. McConnell,

My name is John Arenz. I live in Pollock Pines, California, and I recreate on the Rubicon Trail regularly. I am a Director of the Rubicon Trail Foundation, and participate actively in the Rubicon Oversight Committee and in volunteer efforts on the trail with Friends of the Rubicon. I have been enjoying the Rubicon for more than twenty years, my family grew up spending time there every summer, and I wish to pass that heritage to my grandchildren, and all those who wish to recreate responsibly on the trail.

These comments are submitted by me as an individual citizen. I would ask that you include these comments in the record, respond to them, and keep me informed of any further planning and decisions regarding the Rubicon Trail. The following comments are in response to the proposed draft Cleanup and Abatement Order (Order) being reviewed by the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board or Board) to be issued to El Dorado County (hereafter County) based on provisions of California Water Code (CWC) sections 13304 and 13267 concerning the Rubicon Trail.

I recognize that we, as a community, need to provide for motorized recreation opportunities on public and private lands. That being said, I also recognize the issues affecting the Rubicon Trail and any recreational trail used by the public to participate in multiple forms of recreation including but not limited to hunting, fishing, camping, hiking, horseback riding, bicycle riding, and gem and mineral collection.

I recognize the positive health and social benefits that can be achieved through outdoor activities. I also recognize that motorized recreation provides the small business owners in the local communities a significant financial stimulus and I recognize that the local community is directly affected by management decisions concerning public land use.

The general public is deeply concerned about conditions that affect the environment and personal safety. At the same time, they desire and deserve opportunities to spend time on public lands enjoying wildlife and scenic vistas. The public also desires to share our natural heritage with friends and family today as well as in the future. How can our children learn and appreciate our

natural heritage when native species are allowed to deteriorate and historic routes are routinely blocked or closed?
I support the concept of managed recreation and believe it is prudent and appropriate management to identify areas where off-highway vehicle use is appropriate, such as the Rubicon Trail. Such use must be consistent with best management practices, as well as state and federal regulations. Recreation, especially recreation off of paved or gravel roads, is the leading growth area in visitors to public lands.

The Rubicon Trail is an historic off-highway vehicle (OHV) trail in the Sierra Nevada Mountains that once connected the town of Georgetown in El Dorado County to Homewood at Lake Tahoe. Today, the Rubicon Trail connects Wentworth Springs to Lake Tahoe. The Rubicon Trail ranges in condition from a well-defined dirt road to granite domes, ledges, and rock debris that create difficult passage for OHVs. Currently, the OHV portion of the Rubicon Trail originates at the Wentworth Springs Campground in Section 31, Township 14 N, Range 15 E, MDB&M and extends easterly through the Little Sluice Box-Spider Lake area to the Buck Island Reservoir area, then northerly through the Rubicon Springs area to the El Dorado County line. A second access to the Rubicon Trail known as the Ellis Creek Intertie starts at the Loon Lake Dam in Section 5, Township 13 N, Range 15 E, MDB&M and extends in a northerly direction to where it intersects the Rubicon Trail near Ellis Creek.

On 30 May 1989, with the adoption of Resolution No. 142-89, the El Dorado County Board of Supervisors reaffirmed the 3 August 1887 declaration that the Rubicon Trail is a non-maintained public road in El Dorado County. The section of the Rubicon Trail within El Dorado County is predominantly on Eldorado National Forest land, though a few segments of the trail cross private land.

On 1 July 2008, the responsibility for oversight and management of the Rubicon Trail was transferred from the El Dorado County Parks Department to the El Dorado County Department of Transportation.

The Rubicon Trail has been historically maintained by many groups. It was originally an indian trail, was improved to a wagon road in the 1800's, was maintained by landowners as an improved dirt road in the early 1900's, and has been maintained as an off highway vehicle since the early 1950's by groups such as Jeeper's Jamboree, Jeep Jamboree USA, Friends of the Rubicon, and the Rubicon Trail Foundation since then. Over the last 122 years El Dorado County has led or participated in most of these maintenance efforts in varying ways.

As a volunteer and volunteer leader, I have spent many hours working on the trail. In many areas volunteers have been successful in mitigating issues on the trail. Other areas needing mitigation have only recently been identified and there are plans in place to work on those areas as well. Volunteers and the volunteer community in general are willing and happy to work with the County DOT and the Board on the trail and have a history of success in doing so.

As a volunteer leader I believe that most of the requirements described by the Board's Draft Order are already in process and can be completed if the County and the trail users' groups are given a reasonable amount of time to do so, however the Board's Draft Order

and administrative rules leave me no choice but to make the specific and substantive comments found in this letter before March 31st, 2009. That being said, we can be successful if we work together.

I have reviewed the methodology used to support the Draft Order and find the following inconsistencies:

Oil and Sanitation Issues not Assessed by the Board

The CVRWQB's Assessment of Sediment Delivery from the Rubicon Jeep Trail in Section 1.0 Introduction describes the three following objectives:

1. Document the relative magnitude of sediment production from portions of the Rubicon Jeep Trail;
2. Document the relative magnitude of sediment delivery from portions of the Rubicon Jeep Trail that are hydrologically connected to stream channels; and
3. Determine the relative impacts of trail derived sediments on the beneficial uses of water.

It is clear that the Board's assessment did not address sanitation or petroleum spill issues in any way whatsoever, yet the Draft CAO orders "operating procedures for cleaning up petroleum contaminated soils on the Rubicon Trail", "operating procedures to enforce the use of spill kits for containment of liquid and solid wastes generated from vehicle use on the Rubicon Trail", a strategy to address human waste management on the Rubicon Trail", "a proposal to legally record the Rubicon Trail easement and provide appropriate signage for users of the Rubicon Trail", "a permitting system for OHV users to determine use patterns and provide public education on the environmental issues associated with trail use, and if desired, to generate fees to finance management of the trail", and a "report on the permitting system and strategies to address human waste and petroleum products.

In the total and complete absence of assessment in these areas, any CAO issued by the Board should not contain references to the areas of sanitation, permitting, petroleum cleanup, or legal claim issues.

Misuse of Research when Studying the Rubicon Trail because of Climate Differences

The CVRWQB's Assessment of Sediment Delivery from the Rubicon Jeep Trail Section 3.2, Figure 2 describes "Predicted Sediment Output from Measured Dust Layer" and then goes on to describe Ziegler's study in Thailand comparing actual sediment production during a given rainfall event with sediment production prediction based on depth of dust layer. This prediction model, developed in Thailand, may indeed be accurate in an area that receives as much as 150 inches of rain per year (Ziegler et al., 2001). This assessment, however, is using the model to predict sediment production in an area that receives as much as 70% of its precipitation in snowfall, and an overall average equivalent of less than 50 inches of rain per year according to

the Western Regional Climate Center of the National Oceanic and Atmospheric Administration (www.wrcc.dri.edu).

There is no indication in the assessment that any study of an area with even a vague climate similarity to the Rubicon has been undertaken, employed, or considered, therefore the assessment fails to establish nexus between the chosen erosion formula (Ziegler) and actual conditions on the Rubicon Trail. Because of this lack of nexus, all references to this study should be removed, and any CAO issued cannot in fact refer to sediment delivery that cannot be quantified accurately.

Misuse of Research when Studying the Rubicon Trail because of Ground, Soil, and Vegetation Differences

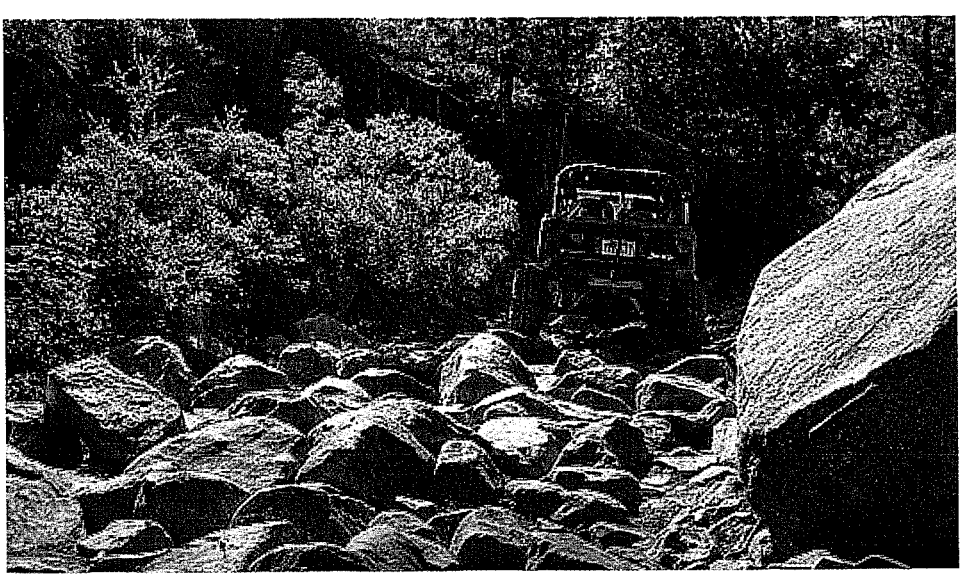
The CVRWQB's Assessment of Sediment Delivery from the Rubicon Jeep Trail Section 3.2, Figure 2 describes "Predicted Sediment Output from Measured Dust Layer" and then goes on to describe Ziegler's study in Thailand comparing actual sediment production during a given rainfall event with sediment production prediction based on depth of dust layer. This prediction model, developed in Thailand, may indeed be accurate in the area described in the study. Ziegler himself describes the study area as "12 per cent agricultural land (cultivated upland fields and <1.5 year-old abandoned); 13 per cent fallow lands (not used for 1.5-4 years); 31 and 12 per cent are young (4-10 years) and advanced secondary vegetation , respectively; and 31 per cent is disturbed , old growth forest".

I haven't seen any well developed information that define ground, soil, or vegetation conditions in the Rubicon the way that Ziegler does in Thailand, but it is certainly apparent that much of the area that the trail crosses are bare granite (approximately 40%, according to the California Geological Survey). Once again, this applies an assessment model that was developed in a study area without even a vague ground, soil, or vegetation similarity to the Rubicon, therefore the assessment fails to establish nexus between the chosen erosion formula (Ziegler) and actual conditions on the Rubicon Trail. Because of this lack of nexus, all references to this study should be removed, and any CAO issued cannot in fact refer to sediment delivery that cannot be quantified accurately.

Visual Representation of the Difference between Ziegler's Study Area and the Rubicon

These are comparison pictures. The first is a photograph from the Ziegler 2001 study. It is captioned, "Figure 3. Surface lowering on the main road to Pang Khum. The >0.5 m elevated bench on the left was original road surface before the rainy season began four to six months earlier", so it illustrates the amount of erosion that takes place *in a single year* in Ziegler's study area. The second picture is a personal picture taken of the Rubicon Trail after *over 100 years* of use.

Figure 3. Surface lowering on the main road to Pang Khum. The >0.5 m elevated bench on the left was original road surface before the rainy season began four to six months earlier



The purpose of this comment is not to say that there is no issue, it is to point out that the study used to quantify the issue is grossly out of context when applied to the Rubicon Trail.

Differing Soils Not Taken into Account

The CVRWQB's Assessment of Sediment Delivery from the Rubicon Jeep Trail uses only one sedimentation model; Ziegler. In his study, Ziegler compares his Thailand study to a similar study conducted in the Marlborough Sounds of New Zealand (Coker et al, 1993). His comparison says, "Apart from being related to differences in soil erodability, differences between our simulation results...are probably related to surface preparation" (Ziegler, 2001).

This indicates that Ziegler acknowledges that both soil erodability (different in different soil types) and surface preparation will affect sediment yields. Ziegler also acknowledges, "Erodabilities will probably have to be determined experimentally for different locations" (Ziegler, 2001). Until a study is done of the specific soil conditions in the Rubicon (or a similar Sierra habitat), a study done in a markedly different soil type on another continent should not be relied upon for indication of sediment transport, and all quantitative discussion of sediment transport or mitigation of sediment transport should be removed from the CAO.

Inadequate Review Time

According to the administrative record, Board staff has been working on Rubicon Trail issues since approximately March of 2008. Board staff has had that period of time to formulate its assessment and the Draft CAO, yet trail users and the county are given less than two months to review hundreds of pages of material. This is simply inadequate review time and places not just an unreasonable burden, but an impossible burden on stakeholders.

Inadequate Implementation Time

This is very simple. El Dorado County Department of Transportation has had charge of the trail for approximately eight months, during four of which the trail has been inaccessible due to snow. The DOT has shown their progress in planning a large body of work. They have also demonstrated their ability to complete work in conjunction with volunteer efforts. They have already planned much of the work your draft order suggests should be undertaken and have asked for a reasonable amount of time to complete the work. Grant them the time to plan and execute the work properly.

Use of the Rubicon Trail Management Plan as an Assessment Tool

It is apparent that the Board is relying on the de facto Rubicon Trail Management Plan (RTMP) for information, planning, and assessment. This is an uncertified document that was abandoned for financial reasons prior to public comment completion and incorporation. The agencies affected, trail users, the environmental community, and the governing body has had no opportunity to shape the final document.

The RTMP cannot be used as an assessment tool by the Board or any other agency.

Work Ordered in the Draft CAO is Already Complete or in Process

It should be noted that between the time that the Board began its assessment and completed it the following work has been completed or is within a few weeks of completion:

- A trail assessment for the purpose of prioritizing erosion mitigation work has been completed by the California Geological Survey and is due to be delivered by the end of March 2009.
- El Dorado County DOT has applied for grant funds for development of operating procedures and training of volunteers and DOT workers on trail construction.
- El Dorado County DOT has completed study work and is in the design phase for installing bridges at both Gerle Creek and Ellis Creek and is on track to complete those bridges by the end of the 2010 season.
- Rubicon Trail Foundation has begun the process of implementing a study to be undertaken this season and repeated in later seasons to get an accurate count of trail users.
- Rubicon Trail Foundation has applied for grant funds for construction of a vehicle designed, licensed, and permitted for the removal of human waste from approved vault toilets on the trail.
- El Dorado County has applied for grant funds for conducting a feasibility study for placement of toilet facilities in the trail corridor.
- El Dorado County Environmental Management Department has, for the last four seasons, with volunteers assisting, conducted a highly effective Automotive Fluid Spill Prevention and Control Program (report attached to these comments as Appendix A).
- El Dorado County Environmental Management Department has, for the last four seasons, with volunteers assisting, conducted a highly effective Wag-Bag distribution and user education program.

Lack of Compliance with California Business and Professions Code

The Board's Draft CAO states that, "In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report by the Discharger shall contain the professional's signature and/or stamp of the seal.

Section 7835.1 of the California Business and Professions code states that, "*All geophysical plans, specifications, reports, or documents shall be prepared by a professional geophysicist, registered certified specialty geophysicist, professional geologist, registered certified specialty geologist, or by a subordinate employee under his or her direction. In addition, they shall be*

signed by the professional geophysicist, registered certified specialty geophysicist, professional geologist, or registered certified specialty geologist, or stamped with his or her seal, either of which shall indicate his or her responsibility for them".

The Assessment contains no such stamp or signature. Does this mean that the Board intends to hold the Discharger to a higher standard than the Board itself is willing to meet? Until such stamp or signature is affixed to the Assessment, according to the standard the Board itself has set, the document is not only illegally offered (because it is not an agency document, having been released to the public), but cannot be considered in any CAO issued by the Board. The Board should therefore remove any references to or conclusions drawn from the Assessment from its final CAO.

Human Waste on the Rubicon Trail

In July 2004, the El Dorado County Board of Supervisors issued a state of local emergency due to human fecal waste in the area of Spider Lake. As a result, this area was closed to camping. The Draft CAO states that, "the amount of fecal waste was determined to pose a health and safety threat...to streams and lakes that are tributary to the Rubicon River and the Middle Fork American River".

Though it is true that the area was closed by the County due to human fecal waste on the ground in the area, it is also true that there was and is no connection between that closure and the health of the waters of the state. On July 1st, 2004 and again on July 6th, 2004, the County's contractor pulled samples from various locations around the lake and tested them for total coliform. Total coliform include a large number of non-disease causing bacteria arising from soil and vegetation. Anytime a sample is positive for total coliform, the same sample must be analyzed for either fecal coliform or Escherichia Coli, both indicators of fecal waste, whether it is human waste or animal waste. The result of that sample was that the levels of both total coliform and E.Coli were below standards set by the California Department of Public Health and the EPA.

That being said, trail users were also alarmed and an immediate volunteer effort was mobilized to clean up the area. That effort has been duplicated each year since, and each year the amount of human waste removed from the area has decreased. In 2004, the cleanup yielded 500 pounds of human waste, while in 2008, the annual Spider Lake cleanup yielded less than 20 pounds.

This reduction is likely a result of education efforts on the part of the County, Friends of the Rubicon, and the Rubicon Trail Foundation. These education efforts include distributing WAG (Waste Absorbent Gel) Bags, educational materials, and in person contacts to educate users. It is reasonable to note here that over 7000 WAG bags have been distributed on the Rubicon Trail since 2003, when the program began, and another 1500 are in stock for distribution this year.

Five hundred pounds is a lot of human waste, and even twenty pounds is too much. Obviously it would be ideal to reduce that number to zero. It should be taken in context, though. In his 2001 study, Dan Totheroh estimated that there could be as much as 75,000 pounds of waste generated in a single season. If that were the case and only a third of that waste was generated at Spider

Lake (probably an underestimation as Spider Lake was most the most used camping area in the Rubicon), a reasonable assumption can be made that as much as 25,000 pounds of waste could have been generated at Spider. But during the busiest year (2004) only 500 pounds was collected, which accounts for the human waste of approximately 2% of trail users. In later years, as users became more educated, the quantity of human waste left inappropriately at Spider Lake was reduced each year until at the end of the 2008 season, approximately 20 pounds of human waste was removed, which represents approximately .08/100ths % of users. What this means is that we still need to educate 8 of every 10,000 users of Spider Lake, and we will.

Clearly the numbers are hard to validate, but the reduction in human waste is real, and that should be recognized.

CAO Recommendations

Based on the above comments, and in order to assist the Board, the following is a suggested CAO that will accomplish the Board's major goals, keep the trail open, accommodate the recreating public, and set reasonable timelines for the County:

1. By April 2010, submit an operation and maintenance (O&M) plan to address sediment, human waste, and petroleum based spills on the Rubicon Trail. The O&M Plan must describe how the Rubicon Trail will be managed to reduce future discharges of sediment, human waste, and petroleum products to waters of the state. The O&M Plan should include each of the following elements:

    a. A trail assessment to identify sensitive water bodies to be protected (streams, lakes, ponds, and wetlands).

    b. Using the trail assessment, prepare a list of projects to be implemented to protect the identified sensitive water bodies. The list should be prioritized based on threat to water quality and should include a proposed timeline.

    c. A proposal to clearly define the Rubicon Trail corridor and provide appropriate signage for users of the Rubicon Trail.

    d. Operating procedures for constructing/maintaining road/trail drainage structures such as rolling dips, drainage dips, and lead-off ditches.

    e. Operating procedures for constructing and maintaining steam crossings including rocked dips, drainage dips, culvert crossings, and bridges.

    f. Operating procedures for constructing and maintaining new trail segments (once CEQA/NEPA has been fulfilled)

    g. Operating procedures for decommissioning road segments that have been replaced with new trail segments.

h. Procedures for training of volunteer groups and count staff to install and maintain road drainage structures.

i. A permitting system designed to determine use patterns and provide public education on the environmental issues associated with trail use.

j. A strategy for educating users on the use of petroleum spill kits and portable toilets or wag bags.

k. A strategy for placing additional toilet facilities in a dispersed fashion along the trail, and to service and maintain toilet facilities.

l. Annual visual monitoring to assess the implementation and effectiveness of management measures.

2. After the approval of the O&M plan and as soon as possible after the trail is no longer saturated in the 2010 season, begin implementing the approved O&M plan.

3. By October 31st, 2010 submit a progress report detailing progress on implementing the O&M plan.

4. By September 30, 2010 submit a report showing that installation of bridges at Ellis Creek and the Gerle Creek crossing have been completed.

Thank you for your careful consideration and response to my comments,

John M. Arenz